

Amendment

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANT: KHARITONENKO.

EXAMINER: DANG

SERIAL NO.: 09/890,618

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CASE NO.: CR1028AC

TITLED: A METHOD OF PROVIDING AN EXTENSION TO A SIGNAL AND APPARATUS THEREFORE

Motorola, Inc.
Corporate Offices
1303 E. Algonquin Road
Schaumburg, IL 60196
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Supplemental Amendment

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Name of applicant, assignee, or
Registered Representative

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Signature

MS Amendment
Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

In response to the notice of non-compliant amendment, the Applicants hereby respectfully submit the following response:

Amendments to the Drawings

Attached herewith are amended Figs 1 to 3 that now have the required Prior Art Legend

Amendments to the claims

1. (Canceled).
2. (Canceled).
3. (Canceled).
4. (Currently amended) A method of extending a signal having at least a first end, the method comprising the steps of:
 - defining a symmetry point at least adjacent the first end;
 - determining a portion of the signal adjacent to the defined symmetry point;
 - duplicating the determined portion of the signal in a point symmetric fashion about the defined symmetry point; and
 - extending the signal from the defined symmetry point using the duplicated portion of the signal, wherein the signal is a digital signal comprising a sequence of discrete digital samples, the sequence having first and second ends with first and final discrete digital samples at the first and final ends and wherein the symmetry point is located external of the first end of the sequence by an amount equal to half of a period between the discrete digital samples in the sequence.
5. (Canceled).
6. (Canceled).
7. (Canceled).
8. (Canceled).

9. (Canceled).
10. (Canceled)
11. (Canceled).
12. (Canceled).
13. (Currently amended) A method of extending a signal according to claim [+] 4, wherein the value of the defined symmetry point is zero.
14. (Original) A method of extending a signal according to claim 4, wherein the signal has first and second ends and the extension is provided at both ends of the signal.
15. (Original) A method of extending a signal according to claim 4, wherein the length of the signal is determined along a horizontal axis of a desired domain in which the signal is available.
16. (Original) A method of extending a signal according to claim 15, wherein the length of the signal is determined in a time domain.
17. (Original) A method of extending a signal according to claim 15, wherein the length of the signal is determined in a frequency domain.
18. (Original) A method of extending a signal according to claim 4, wherein the signal includes at least one set of data from the group of data sets including:
 - image data set;
 - speech data set;
 - acoustic data set.

Claims 19-38 have been cancelled

39. (Currently amended) Apparatus for extending a signal having at least a first end, the apparatus comprising:

defining means having an input for receiving the signal and an output for providing a defined symmetry point at least adjacent the first end of the signal;

determining means having an input coupled to the output of the defining means and an output for providing a determined portion of the signal adjacent to the defined symmetry point;

duplicating means having an input coupled to the output of the determining means and an output for providing a duplicate of the determined portion of the signal in a point symmetric fashion about the defined symmetry point;

extending means having an input coupled to the output of the duplicating means and an output for providing an extended signal using the duplicated portion of the signal,
wherein the signal is a digital signal comprising a plurality of discrete digital samples, the sequence having first and second ends with first and last discrete digital samples at the first and final ends and wherein the symmetry point is located at the first end of the sequence and has a value at least close to the value of the discrete digital sample that is at the first end of the sequence.

40. (Canceled).

41. (canceled).

42. (Canceled).

43. (Canceled).

44. (Canceled).

45. (Canceled).

46. (Canceled).
47. (Canceled).
48. (Currently amended) Apparatus for extending a signal according to claim [47] 39, wherein the value of the defined symmetry point is zero.
49. (Original) Apparatus for extending a signal according to claim 39, wherein the signal extension is provided at both ends of the signal of finite length.
50. (Original) Apparatus for extending a signal according to claim 39, wherein the signal includes at least one set of data from the group of data sets including:
image data set;
speech data set;
acoustic data. set.
51. (Original) Apparatus for extending a signal according to claim 39, wherein the length of the signal is determined along a horizontal axis of a desired domain in which the signal is available.
52. (Original) Apparatus for extending a signal according to claim 51, wherein the length of the signal is determined in a time domain.
53. (Original) Apparatus for extending a signal according to claim 51, wherein the length of the signal is determined in a frequency domain.

Claims 54-66 have been cancelled

66. (New) A method of extending a signal having at least a first end, the method comprising the steps of:

defining a symmetry point at least adjacent the first end;
determining a portion of the signal adjacent to the defined symmetry point;
and
extending the signal from the defined symmetry point using at least one interpolated value obtained from a linear interpolation that has a starting interpolation point at a sampled value in the portion, a mid interpolation point at the symmetry point and an end interpolation point defining the interpolated value that is at a distance from the mid point that is identical to the distance of the sampled value from the mid point.

67. (New) A method of extending a signal as claimed in claim 66, wherein the interpolated value is determined by:

$x[i] = 2 * P - X[i]$, where $x[i]$ is the interpolated value, $X[i]$ is an i th said sampled value and P is the symmetry point.

AMENDMENTS TO THE CLAIMS:

Claims 14-18 and 49-53 are unchanged. Claims 4,13, 39 and 48 are currently amended.
Claims 1-3, 5-12, 36-38 and 40-47 are canceled. Claims 66 and 67 are new. Claims 4,13-18, 39,48-53 and 66-67 are pending in this application.